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EXAMINER

TAYLOR, NICHOLAS R

ART UNIT PAPER NUMBER

2141

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/632,676	Applicant(s) JOHNSON, GERALD	
	Examiner Nicholas R Taylor	Art Unit 2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-28 have been examined and are rejected.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2 and 4-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noronha et al. (US PGPub 2003/0223466) and Hutchings (2003/0030720.)

4. As per claim 1, Hutchings teaches a method for transmitting timing critical data over a network that is also carrying Internet Protocol traffic (Hutchings, paragraph 0025) comprising:

transmitting the timing critical data directly to a media access control layer (Hutchings, paragraph 0027.)

However, Hutchings fails to teach maintaining a timing relationship of the timing critical data throughout the media access control layer to a scheduler and scheduling transmission of the timing critical data and the Internet Protocol traffic in a single scheduler. Noronha teaches a multi-stream multiplexing device that combines and

transmits timing critical data (Noronha, paragraph 0081, 1st sentence), and schedules and sends the data (Noronha, paragraph 0080.)

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have combined Hutchings and Noronha to provide the scheduling of time critical data of Noronha in the system of Hutchings, because doing so would ensure the timing critical data can be correctly decoded at its destination (Noronha, paragraph 0014.)

5. As per claim 2, Hutchings-Noronha teaches the system further wherein the timing critical data comprises an MPEG video data stream (Hutchings, paragraph 0025, and Noronha, paragraph 0081, 1st sentence.)

6. As per claim 4, Noronha teaches an apparatus to receive timing critical data (Noronha, paragraph 0081) from a first network and to transmit the timing critical data over one or more other networks to one or more client devices (Noronha, paragraph 0044-0046) comprising: maintaining a timing relationship of the timing critical data and scheduling transmission of the timing critical data over the one or more other networks (Noronha, paragraph 0080.)

However, Noronha fails to teach a video bridge to couple to the first network, said video bridge receiving the timing critical data. Hutchings teaches a video bridge receiving timing critical data (Hutchings, paragraph 0025 and 0028.)

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have combined Noronha and Hutchings to provide the video bridge of Hutchings in the system of Noronha, because doing so would provide a technique to format a video data stream to allow for the transfer of video data over a network connection (Hutchings, paragraph 0005.)

7. As per claim 5, Noronha-Hutchings teaches the system further wherein the video bridge comprises:

a MAC receiver outputting the timing critical data; and (Hutchings, paragraph 0027)

one or more MAC transmitters, one for each of the one or more client devices, each MAC transmitter coupled to the MAC receiver, receiving the timing critical data and converting the timing critical data to a format suitable for transmission over one of the one or more other networks (Hutchings, paragraph 0028.)

8. As per claim 6, Noronha-Hutchings teaches the system further wherein the video bridge comprises:

a first physical layer interface to couple to the first network and coupled to the MAC receiver; and one or more second physical layer interfaces, each second physical layer interface coupled to one of the one or more MAC transmitters, and each second physical layer interface to couple to said one of the one or more other networks (Hutchings, paragraph 0027-0029.)

9. As per claim 7, Noronha-Hutchings teaches the system further wherein each of the one or more MAC transmitters comprises:

a timing circuit to adjust timing resulting from any filtering and to add additional timing information to adjust for latency and jitter introduced by said one of the one or more other networks; a packetizer coupled to the timing circuit to create packets or frames that meet requirements of said one of the one or more other networks; and (Noronha, paragraph 0048, wherein the data transport streams are in packetized form)

a scheduler coupled to the packetizer to schedule access to said one of the one or more other networks (Noronha, paragraph 0080.)

10. As per claim 8, Noronha-Hutchings teaches the system further wherein each of the one or more MAC transmitters comprises:

a PID filter to receive the timing critical data and to filter out programs that are not required by one of the one or more client devices and outputting the filtered timing critical data to the timing circuit; and (Hutchings, paragraph 0016)

a queue coupled to the scheduler to buffer packets or frames prior to transmission over said one of the one or more other networks (Noronha, paragraph 0063.)

11. As per claim 9, Noronha-Hutchings teaches the system further comprising one or more additional MAC receivers, one for each of the one or more client devices, each

of the one or more additional MAC receivers disposed between one of the one or more other networks and one of the one or more client devices, wherein each of the one or more additional MAC receivers (Hutchings, paragraph 0027) comprises:

- a depacketizer to convert incoming packets to a format suitable for the timing critical data; a timing circuit coupled to the depacketizer to restore the timing critical data based on bits added by a timing circuit in the one or more MAC transmitters; and (Noronha, paragraph 0081-0082)

- a queue coupled to the depacketizer to buffer incoming packets from said one of the one or more other networks before passing the incoming packets to the depacketizer (Noronha, paragraph 0081, wherein the incoming packets are buffered.)

12. As per claim 10, Noronha-Hutchings teaches the system further wherein the one or more client devices comprises at least two client devices, and the video bridge transmits an identical copy of the timing critical data to each of the at least two client devices (Noronha, paragraph 0044 and figure 4, specifically wherein TS4 and TS5 are duplicate output streams.)

13. As per claim 11, Noronha teaches an apparatus for transmitting a first timing critical data (Noronha, paragraph 0081) from a first network and a second timing critical data from a second network over one or more other networks to one or more client devices (Noronha, paragraph 0044-0046) comprising:

maintaining a timing relationship of the first and second timing critical data and scheduling transmission of the timing critical data over the one or more other networks to each of the one or more client devices (Noronha, paragraph 0080.)

However, Noronha fails to teach a video bridge coupled to the first and second networks and receiving the first and second timing critical data from the first and second networks. Hutchings teaches a video bridge receiving timing critical data (Hutchings, paragraph 0025 and 0028.)

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have combined Noronha and Hutchings to provide the video bridge of Hutchings in the system of Noronha, because doing so would provide a technique to format a video data stream to allow for the transfer of video data over a network connection (Hutchings, paragraph 0005.)

14. As per claim 12, Noronha-Hutchings teaches the system further wherein the video bridge comprises:

a first MAC receiver outputting the first timing critical data; a second MAC receiver outputting the second timing critical data; (Hutchings, paragraph 0027)

a multiplexer coupled to the first and second MAC receivers and creating a single data stream from the first and second timing critical data; and one or more MAC transmitters coupled to the multiplexer, one for each of the one or more client devices, each of the one or more MAC transmitters receiving the single data stream including the first and second timing critical data, converting the first and second timing critical data to

a format suitable for transmission over the one or more other networks, and (Noronha, paragraph 0044)

filtering out programming not selected by said each of the one or more client devices (Hutchings, paragraph 0016.)

15. As per claim 13, Noronha-Hutchings teaches the system further wherein the video bridge further comprises:

a first physical layer interface to couple to the first network and coupled to the first MAC receiver; a second physical layer interface to couple to the second network and coupled to the second MAC receiver; and

one or more other physical layer interfaces, each of which is coupled to one of the one or more MAC transmitters and each is which is also coupled to one of the one or more other networks (Hutchings, paragraph 0027-0029 and Noronha, paragraph 0044.)

16. As per claim 14, Noronha-Hutchings teaches the system further wherein each of the one or more MAC transmitters comprises:

a timing circuit to adjust timing resulting from any filtering and to add additional timing information to adjust for latency and jitter introduced by said one of the one or more other networks; a packetizer coupled to the timing circuit to create packets or frames that meet requirements of said one of the one or more other networks; and (Noronha, paragraph 0048, wherein the data transport streams are in packetized form)

a scheduler coupled to the packetizer to schedule access to said one of the one or more other networks (Noronha, paragraph 0080.)

17. As per claim 15, Noronha-Hutchings teaches the system further wherein each of the one or more MAC transmitters further comprises:

a PID filter to receive the single data stream and to filter out programs that are not required by one of the one or more client devices to which said each MAC transmitter is coupled via one of the one or more other networks, and outputting the filtered single data stream to the timing circuit; and (Hutchings, paragraph 0016)

a queue coupled to the scheduler to buffer packets or frames prior to transmission over said one of the one or more other networks (Noronha, paragraph 0063.)

18. As per claim 16, Noronha-Hutchings teaches the system further comprising one or more additional MAC receivers, one for each of the one or more client devices, each of the one or more additional MAC receivers disposed between one of the one or more other networks and one of the one or more client devices, wherein each of the one or more additional MAC receivers comprises (Hutchings, paragraph 0027):

a depacketizer to convert incoming packets to a format suitable for the first and second timing critical data; a timing circuit to restore the first and second timing critical data based on bits added by one of the one or more MAC transmitters; and (Noronha, paragraph 0081-0082)

a queue coupled to the depacketizer to buffer incoming packets from the one or more other networks before passing the incoming packets to the depacketizer (Noronha, paragraph 0081, wherein the incoming packets are buffered.)

19. As per claim 17, Noronha-Hutchings teaches the system further wherein the video bridge comprises:

a first MAC receiver outputting the first timing critical data; a second MAC receiver outputting the second timing critical data; and one or more MAC transmitters, one for each of the one or more client devices, (Hutchings, paragraph 0027-0029.)

each of the one or more MAC transmitters receiving the first timing critical data and the second timing critical data, converting the first and second timing critical data to a format suitable for transmission over the one or more other networks, and (Noronha, paragraph 0044)

filtering out programming not selected by said each of the one or more client devices (Hutchings, paragraph 0016.)

20. As per claim 18, Noronha-Hutchings teaches the system further wherein the video bridge further comprises:

a first physical layer interface to couple to the first network and coupled to the first MAC receiver; a second physical layer interface to couple to the second network and coupled to the second MAC receiver; and

one or more other physical layer interfaces, one for each of the one or more MAC transmitters, each of which is coupled to one of the one or more MAC transmitters and each is which is also coupled to one of the one or more other networks (Hutchings, paragraph 0027-0029 and Noronha, paragraph 0044.)

21. As per claim 19, Noronha-Hutchings teaches the system further wherein each of the one or more MAC transmitters comprises:

a first timing circuit to adjust timing resulting from any filtering and to add additional timing information to adjust for latency and jitter introduced by said one of the one or more other networks; a second timing circuit to adjust timing resulting from any filtering and to add additional timing information to adjust for latency and jitter introduced by said one of the one or more other networks; (Noronha, paragraph 0048)

a first packetizer coupled to the first timing circuit to create packets or frames that meet requirements of said one of the one or more other networks; a second packetizer coupled to the second timing circuit to create packets or frames that meet requirements of said one of the one or more other networks; and (Noronha, paragraph 0048, wherein the data transport streams are in packetized form)

a scheduler coupled to each of the first and second packetizers to schedule access to said one of the one or more other networks (Noronha, paragraph 0080.)

22. As per claim 20, Noronha-Hutchings teaches the system further wherein each of the one or more MAC transmitters further comprises:

a first PID filter to receive the first timing critical data and to filter out programs in the first timing critical data that are not required by one of the one or more client devices to which said each of the one or more MAC transmitters is coupled via one of the one or more other networks, said first PID filter outputting the filtered first timing critical data to the first timing circuit; a second PID filter to receive the second timing critical data and to filter out programs in the second timing critical data that are not required by one of the one or more client devices to which said each of the one or more MAC transmitters is coupled via one of the one or more other networks, said second PID filter outputting the filtered second timing critical data to the second timing circuit; and (Hutchings, paragraph 0016 and Noronha, paragraph 0062)

a queue coupled to the scheduler to buffer packets or frames prior to transmission over said one of the one or more other networks (Noronha, paragraph 0063.)

23. As per claim 21, Noronha teaches an apparatus for transmitting timing critical data (Noronha, paragraph 0081) from a first network over one or more other networks to one or more client devices comprising (Noronha, paragraph 0044-0046): scheduling transmission of the timing critical data over the one or more other networks (Noronha, paragraph 0080.)

However, Noronha fails to teach outputting a video signal, a video bridge coupled to the first network and receiving the timing critical data, maintaining a timing relationship of the timing critical data, and a television coupled to the video bridge to

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receive the television signal from the video bridge. Hutchings teaches a video bridge receiving timing critical data (Hutchings, paragraph 0025 and 0028) and outputting a television signal and a television coupled to the bridge to receive the television signal (Hutchings, paragraph 0046.)

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have combined Noronha and Hutchings to provide the video bridge and television signal output/receiving of Hutchings in the system of Noronha, because doing so would provide a technique to format a video data stream to allow for the transfer of video data over a network connection (Hutchings, paragraph 0005.)

24. As per claim 22, Noronha-Hutchings teaches the system further wherein the video bridge comprises:

- a MAC receiver outputting the timing critical data; (Hutchings, paragraph 0027-0029)

- a decoder coupled to the MAC receiver and the television and converting the timing critical data to a television signal; and (Hutchings, paragraph 0031)

- a MAC transmitter receiving the timing critical data and converting the timing critical data to a format suitable for transmission over the network (Hutchings, paragraph 0027-0029.)

25. As per claim 23, Noronha teaches an apparatus for transmitting timing critical data (Noronha, paragraph 0081) from a first network along with Internet Protocol

packets over one or more other networks to one or more client devices comprising (Noronha, paragraph 0044-0046):

a processor outputting Internet Protocol data packets; and (Noronha, paragraph 0042)

maintaining a timing relationship of the timing critical data and scheduling transmission of the timing critical data along with the Internet Protocol packets over the one or more other networks to the one or more client devices (Noronha, paragraph 0080.)

However, Noronha fails to teach a video bridge coupled to the first network and the processor, receiving the timing critical data. Hutchings teaches a video bridge receiving timing critical data (Hutchings, paragraph 0025 and 0028.)

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have combined Noronha and Hutchings to provide the video bridge of Hutchings in the system of Noronha, because doing so would provide a technique to format a video data stream to allow for the transfer of video data over a network connection (Hutchings, paragraph 0005.)

26. As per claim 24, Noronha-Hutchings teaches the system further wherein the video bridge comprises:

a MAC receiver outputting the timing critical data; and (Hutchings, paragraph 0027)

one or more MAC transmitters, one for each of the one or more client devices, each Mac transmitter receiving the timing critical data and converting the timing critical data to a format suitable for transmission over the one or more other networks (Hutchings, paragraph 0028) and having a data port coupled to the processor to receive Internet Protocol packets (Noronha, paragraph 0092.)

27. As per claim 25, Noronha-Hutchings teaches the system further wherein each of the one or more MAC transmitters comprises:

a PID filter to receive the timing critical data and to filter out programs that are not required by one of the one or more client devices to which said each MAC transmitter is coupled via one of the one or more other networks; (Hutchings, paragraph 0016)

a timing circuit to adjust timing resulting from the filtering and to add additional timing information to adjust for latency and jitter introduced by said one of the one or more other networks; (Noronha, paragraph 0048)

a packetizer creating packets or frames that meet requirements of said one of the one or more other networks; a data interface coupled to the processor to receive Internet Protocol packets from the processor; and (Noronha, paragraph 0048, wherein the data transport streams are in packetized form)

a scheduler coupled to the packetizer and the data interface to schedule access to said one of the one or more other networks for both Internet Protocol packets from the processor and the timing critical data (Noronha, paragraph 0080.)

28. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Noronha et al. (US PGPub 2003/0223466) and Hutchings (2003/0030720), further in view of Thompson ("IEEE 1394: Changing the way we do Multimedia Communications.")

29. As per claim 3, Hutchings-Noronha teaches the above, yet fails to further teach the system wherein the timing critical data comprises 1394 traffic including isochronous video data. Thompson teaches using 1394 to transmit video data (Thompson, "Digital Video" paragraph.).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have combined Thompson and Hutchings-Noronha to provide the 1394 video data transfer of Thompson in the system of Hutchings-Noronha, because doing so would allow support of high speed transfer of digital video data (Thompson, "Digital Video" paragraph.)

30. Claims 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noronha et al. (US PGPub 2003/0223466) and Hutchings (2003/0030720), further in view of Rabenko et al. (US PGPub 2002/0006137.)

31. As per claim 26, Noronha teaches an apparatus for transmitting timing critical data (Noronha, paragraph 0081) from a first network over one or more other networks to one or more client devices (Noronha, paragraph 0044-0046.) Noronha also teaches receiving timing critical data, and maintaining a timing relationship of the timing critical

data and scheduling transmission of the timing critical data over the one or more other networks to the one or more client devices (Noronha, paragraph 0080.)

However, Noronha fails to teach the use of a video bridge coupled to the first network and coupled to the media terminal adapter, and receiving the voice over Internet Protocol packets from the media terminal adapter. Noronha also fails to teach a media terminal adapter, having one or more telephone ports for coupling to a telephone device, and outputting and using Voice over Internet Protocol packets.

Hutchings teaches a video bridge coupled to a network to receive timing critical data (Hutchings, paragraph 0025 and 0028.) It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have combined Noronha and Hutchings to provide the video bridge of Hutchings in the system of Noronha, because doing so would provide a technique to format a video data stream to allow for the transfer of video data over a network connection (Hutchings, paragraph 0005.)

Rabenko teaches a media terminal adapter for telephone ports or television devices (Rabenko, figure 1 and paragraphs 0032 and 0036), and the use of Voice over Internet Protocol packets (Rabenko, paragraphs 0046 and 0085.)

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have combined Rabenko and Noronha-Hutchings to provide the media terminal adapter and Voice over Internet Protocol functionality of Rabenko in the system of Noronha-Hutchings, because doing so would allow voice and data services on a shared medium (Rabenko, paragraph 0002.)

32. As per claim 27, Noronha-Hutchings-Rabenko teaches the system further wherein the video bridge comprises:

a MAC receiver outputting the timing critical data; and (Hutchings, paragraph 0027)

one or more MAC transmitters, one for each of the one or more client devices, each Mac transmitter receiving the timing critical data and converting the timing critical data to a format suitable for transmission over the one or more other networks (Hutchings, paragraph 0028) and having a data port (Rabenko, figure 1 and paragraphs 0032 and 0036) coupled to the media terminal adapter to receive Voice over Internet Protocol packets (Rabenko, paragraphs 0046 and 0085.)

33. As per claim 28, Noronha-Hutchings-Rabenko teaches the system further wherein each of the one or more MAC transmitters comprises:

a PID filter to receive the timing critical data and to filter out programs that are not required by one of the one or more client devices to which said each MAC transmitter is coupled via one of the one or more other networks; (Hutchings, paragraph 0016)

a timing circuit to adjust timing resulting from the filtering and to add additional timing information to adjust for latency and jitter introduced by said one of the one or more other networks; (Noronha, paragraph 0048)

a packetizer creating packets or frames that meet requirements of said one of the one or more other networks; (Noronha, paragraph 0048, wherein the data transport streams are in packetized form)

a data interface (Rabenko, figure 1 and paragraphs 0032 and 0036) coupled to the media terminal adapter to receive voice over Internet Protocol packets from the processor; and (Rabenko, paragraphs 0046 and 0085)

a scheduler coupled to the packetizer and the data interface to schedule access to said one of the one or more other networks for both the voice over Internet Protocol packets from the media terminal adapter and the timing critical data (Noronha, paragraph 0080.)

Conclusion


34. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. This includes US PGPubs 2003/0021285, 2002/0056126, and 2003/0093485.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas Taylor whose telephone number is (571) 272-3889. The examiner can normally be reached on Monday-Friday, 8:00am to 5:30pm, with alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on (571) 272-3880. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3718.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nicholas Taylor
Examiner
Art Unit 2141


RUPAL DHARIA
SUPERVISORY PATENT EXAMINER